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Application 10/707,242

Igor V. Touzov

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December 27, 2005

Reference: Application 10/707,242

Subject: Response to Action Letter sent on 09/28/2005

Date mailed: 12/27/2005

To: Sung H. Pak  
Art Unit 2874

Dear Mr. Sung H. Pak,

In response to the action letter I amended claims 1 and 18 of the application. Prior art inventors and in particular Normandin et al (US 5,375,011) utilize light and in particular visible light in an optical waveguides to employ well known effect of multi-photon collision for second harmonic generation. These effects has inherently quantum nature as resulting photons has to have double frequency (SHG) of original light source.

My invention does not rely on quantum behaviors and ultra short laser pulses. On contrary it emphasizes on use of DC or AC/RF voltage generators to produce electrical wave/distortion/pulse in electrical line (paragraphs 60, 61, 64, 70, 88, 98, 113, 132, 135, 142, 146, 149), or to produce a mechanical distortions synonym for deformation or acoustic waves, or shock waves (paragraphs 10, 26, 135, 139, 200).

The light pulses and optical waves can also be utilized but are not essential to for the fundamental nature of the invention. As a matter of fact light emissions referenced in paragraphs 24, 105, 106, 110, 124 are caused by Kerr effect and for this reason has frequency of original wave and not second harmonic (opposed to the effect used by Normandin et al)

Secondly, Normandin et al has invented a dedicated method for detecting the location (column 2 lines 16-62) or a variance of length (that is equivalent to detecting the location of the end of a waveguide).

My invention is not suited for detection of a particular location or tracing down its variance. In fact this task will represent some challenges. The goal of the invention is to address a spot in continuous range of physical locations. The term address means perform broadcast attempt to mark, oppose to the term detect in Normandin et al that means ascertain.

False similarity of the present invention and 5'375'011 is in part attributed to terminology and the fact that both inventions use collisions of propagating pulses. Nevertheless present invention allows for single-, two-, and three-dimensional

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collisions utilizing 2, 3 or more propagating distortions. This is done without alteration of species of the invention (paragraphs 30, 31, 33, 36, 43, 44, 48, 125-144). On contrary Normandin et al has invented methods that are explicitly limited to unidimensional case of optical fiber. It is impossible to expand their invention to case of two dimensions or more. In fact Fig. 9b, 12b and 15 and column 1 lines 40-53 and 60-65 explicitly indicate the weakness of the method that attempts to monitor two-dimensional surface of three-dimensional body with array of unidimensional fibers. This weakness does not exist in my invention.

In lieu of dissolving this false similarity the text of Claim 1 is amended that should affect all dependent claims.

Claim 18 has been rewritten in independent form.

Respectfully,



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